



Addendum # 6

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PROJECT NAME: SUU Old Main Building Renovation
Southern Utah University
Cedar City, Utah

DATE: September 20, 2004

DFCM Project No.: 003234730
CRSA Project No.: B04-012

FROM: Cooper Roberts Simonsen Architects
700 North 300 West
Salt Lake City, Utah 84103

(801) 355-5915
Fax (801) 355-9885

TO: All Bidders

This Addendum forms a part of the Contract Documents and modifies the original Bid Documents dated July 21, 2004 as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

PLEASE NOTE THAT THE DRAWING AND SPECIFICATIONS TO BE USED IN BIDDING SHOULD BE THOSE DATED 8-27-04.

This Addendum consists of (3) 8 ½"x11" pages, (67) 8 ½"x11" specification pages, and (4) 8 ½"x11" drawing pages.

I. CHANGES TO PRIOR ADDENDA:

I-1 None

II. CHANGES TO BIDDING REQUIREMENTS:

- II-1 The liquidated damages for this project will be \$1,000 per day.
- II-2 Use the attached Bid Proposal Form for submissions of the bid to DFCM.
- II-3 RFP - Project Schedule: change the date for submitting the cost reduction proposals from Thursday September 23rd to Friday September 24th.
- II-4 RFP - Section 21 Selection Criteria for VBS Construction - subparagraph A. Cost (Short-Listed Contractors Only): change the possible points formula to the following - points available - [(firm's bid - low bid) / low bid] x 1.5 x points available.

III. CHANGES TO AGREEMENT & OTHER CONTRACT FORMS:

I-1 None

IV. CHANGES TO CONDITIONS OF THE CONTRACT:

I-2 None

V. CHANGES TO SPECIFICATIONS:

- V-1 Add the following specifications sections relating to Commissioning to the Contract Documents.



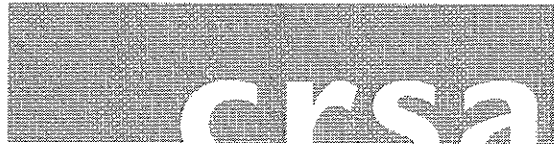
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- a) 01040 – Commissioning Agent – General Requirements
 - b) 01300 – Commissioning – Submittals
 - c) 01701 – Commissioning – Project Closeout
 - d) 01730 – Commissioning – Operations and Maintenance Data
 - e) 15950 – Commissioning Automatic Controls
 - f) 15990 – Commissioning Test, Adjust and Balance
 - g) 15995 – Mechanical Systems Commissioning
 - h) 15997 – Mechanical Testing Requirements
 - i) 16995 – Electrical Systems Commissioning
 - j) 16997 – Electrical Testing Requirements
 - k) 17100 – Commissioning Requirements
- V-2 04901 – Clay Masonry Restoration and Cleaning
- a) Add to 3.4 E 4 – “For the base bid masonry work the joint profile is to match the existing. For the alternate work where the entire building is repointed, use a tapered joint profile”.
- V-3 See attached Electrical Addendum #6
- V-4 16471 – Voice Data
- a) Add this specification section (attached) to the Contract Documents.

VI. CHANGES TO DRAWINGS:

- VI-1 SF104 – Third Floor Ceiling/Truss Bottom Chord Framing Plan
- a) Provide a W8x10 elevator hoist beam centered and running north to south at the top of the elevator shaft. Coordinate with A1/AE406 and the requirements of the elevator manufacturer.
 - b) Detail ###/Arch is to be changed to D1/AE504.
- VI-2 SF502 & SF503 – Framing Details
- a) For the Simpson LTT19, the specified bolt is to be provided for each hanger.
- VI-3 AD101 – Demolition Plan
- a) Clarification Notes – Notes 30 & 31 have been added to clarify known concrete and masonry walls. Again, existing 1940's and 1970's drawings are available to review. See attached drawings Add 6.1 – 6.4.
 - b) Main and Upper Level Floor Heights
 - (1) The existing Main Level is 11'-1" above the existing Lower Level (top of floor to top of floor).
 - (2) The existing Upper Level is 14'-11" above the Main Level (top of floor to top of floor).
- VI-4 AE403A – Alternate Interior Elevations
- a) A1 – Presidents Office Room #303, Elevation D
 - (1) Provide the built in case work (base and upper cabinets) as shown on AE403 details A1 – Presidents Office Room #303, Elevation D.
- VI-5 AE406 – Enlarged Stair Plans & Stair Sections
- a) Detail D5 – On the east handrail at the upper end, extend in a straight direction (to the south) the full 12 inches (similar to the west handrail).



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- VI-6 AE601 – Door Schedule & Door Types
 - a) Provide sign for doors 111A, 117A, and 101A that states “Accessible Entrance at East door to Main Level”.
- VI-7 See attached Electrical Addendum #6
- VI-8 EP101 – Power Plans
 - a) General Clarification –
 - (1) For the base bid there is to be no power or data receptacles or switches mounted on the interior of the exterior walls. There are to be no cables run on the interior side of the exterior walls. The base bid requires the exterior walls to be re-plastered without adding the new furring. The noted exception to this is for the automatic door operator that will be recessed into the wall.
 - (2) If Alternate # 5 is accepted the electrical components are to be installed as shown on EP101.

End of Addendum

PROPOSAL FORM

NAME OF PROPOSER _____ DATE _____

To the Division of Facilities Construction and Management
4110 State Office Building
Salt Lake City, Utah 84114

The undersigned, responsive to the "Notice to Contractors" and in accordance with the "Request for Proposals" for the _____

and having examined the Contract Documents and the site of the proposed Work and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of labor, hereby proposes to furnish all labor, materials and supplies as required for the Work in accordance with the Contract Documents as specified and within the time set forth and at the price stated below. This price is to cover all expenses incurred in performing the Work required under the Contract Documents of which this bid is a part:

I/We acknowledge receipt of the following Addenda: _____

For all work shown on the Drawings and described in the Specifications and Contract Documents as the base bid, I/we agree to perform for the sum of:

_____ DOLLARS (\$_____)
(In case of discrepancy, written amount shall govern)

For work described in Section 01230, Alternates, I/we agree to perform for the following sums:

Alternate **No 1.** Repoint brick/stone around entire building.

_____ DOLLARS (\$_____)
(In case of discrepancy, written amount shall govern)

Alternate **No 2.** Upgrade porch over the west entrance.

_____ DOLLARS (\$_____)
(In case of discrepancy, written amount shall govern)

Alternate **No 3.** Replace all exterior windows.

_____ DOLLARS (\$_____)
(In case of discrepancy, written amount shall govern)

PROPOSAL FORM

PAGE NO. 2

Alternate No. 4 Upgrade ceiling and wood trim package.

_____ DOLLARS (\$_____)

(In case of discrepancy, written amount shall govern)

Alternate No. 5 Add perimeter framed wall.

_____ DOLLARS (\$_____)

(In case of discrepancy, written amount shall govern)

I/We guarantee that the Work will be Substantially Complete within _____ calendar days after receipt of the Notice to Proceed, should I/we be the successful proposer, and agree to pay liquidated damages in the amount of \$_____ per day for each day after expiration of the Contract Time as stated in Article 3 of the Contractor's Agreement.

This bid shall be good for 45 days after bid opening.

Enclosed is a 5% bid bond, as required, in the sum of _____

The undersigned Contractor's License Number for Utah is _____.

Upon receipt of notice of award of this bid, the undersigned agrees to execute the contract within ten (10) days, unless a shorter time is specified in the Contract Documents, and deliver acceptable Performance and Payment bonds in the prescribed form in the amount of 100% of the Contract Sum for faithful performance of the contract. The Bid Bond attached, in the amount not less than five percent (5%) of the above bid sum, shall become the property of the Division of Facilities Construction and Management as liquidated damages for delay and additional expense caused thereby in the event that the contract is not executed and/or acceptable 100% Performance and Payment bonds are not delivered within the time set forth.

Type of Organization:

(Corporation, Partnership, Individual, etc.)

Any request and information related to Utah Preference Laws:

Respectfully submitted,

Name of Proposer

ADDRESS:

Authorized Signature

**SUU OLD MAIN RESTORATION
ELECTRICAL ADDENDUM NO. 6
09-20-04**

ITEM 1 – SPECIFICATIONS

SECTION 16135 – ELECTRICAL BOXES AND FITTINGS

1. Page 2, paragraph Floor Boxes: Floor boxes for conference rooms and Lobbies shall be Hubbell type HBLA Raised Access Floor Boxes with metal cover and flange assembly, with cover recess for carpet insert – No equals. Provide mounting plates for tele/data device, duplex receptacle, and blank plate for projector control. Provide sample of boxes and covers with shop drawings.

SECTION 16180 – OVERCURRENT PROTECTIVE DEVICES

1. Page 1, paragraph Description of Work: Delete reference to Section 16175 in the last sentence.

SECTION 16420 – SERVICE ENTRANCE

1. Provide electronic metering in the 800 amp main panel. Square D 3250; General Electric EPM 7450D; Cutler Hammer IQ Analyzer 6400 Series; or Siemens 9350.

SECTION 16610 – EMERGENCY ELECTRICAL SYSTEMS

1. Page 1, paragraph Description of Work: Delete three last sentence “Refer to Division 15 sections for fuel tanks, piping, and accessories...”

SECTION 16721 – FIRE ALARM AND DETECTION SYSTEM

1. Page 2, paragraph System Operation: Replace sentence “Selectively activate and/or deactivate fan units...” with the sentence “Deactivate all fan units upon building fire alarm from any initiating device.”
2. Page 2, paragraph “Provide supervised circuits for the following:”
 - a. in paragraph 1, delete the words “through the HVAC interface relays at the Fire Command Center.”
 - b. Delete paragraph 3 entirely. There is no Fire Command Center.
3. Page 2, paragraph “Central Station Monitoring”. Replace this paragraph with the following paragraph:

Central Station Monitoring. Provide connection to the existing Simplex equipment and 2120 multiplex panel located in the Campus Physical Plant. Report alarm and trouble conditions to this equipment. Tie the Old Main Building fire alarm panel into the 2120 communication loop.
4. Page 3, add the following paragraph above ‘Central Station Monitoring’ paragraph:

Remote Signal Transmission: Provide reverse polarity transmitter compatible with the existing Campus central receiver accepting the alarm signal transmission. Transmit alarm and trouble signals to a remote signal receiving panel located at the Campus Physical Plant. Provide all equipment and wiring at both the project site and Physical Plant (except leased phone line) required for full and proper remote signal transmission.
5. Page 6, paragraph PRINTER: Delete this paragraph in its entirety.
6. Page 7, AUDIOVISUAL ALARM HORNS: In paragraph 1, change “red enamel” to “white enamel”. Horn/strobes shall be finished in white enamel.

SECTION 16741 – VOICE/DATA COMMUNICATIONS CABLING SYSTEM

1. Specification Section 16741 in the project book shall be replaced with the revised specification Section 16741 included in this addendum.

SECTION 16782 -- SECURITY SYSTEM (RACEWAY)

1. Page 1, PRODUCTS, GENERAL: In paragraph "Provide terminal cabinets..." change words "as indicated" to "18 inch wide by 18 inch high by 4 inch deep, surface mounted"

SPECIFICATIONS -- GENERAL, SUBMITTALS. The Electrical Contractor shall provide samples of all wiring devices and device cover plates with the submittals. This includes voice/data devices and cover plates. Color shall be as selected by architect. The electrical contractor shall provide sample of all floor boxes and floor box covers.

ITEM2 -- DRAWINGS

DRAWING EG101

1. Type P1 fixture. Provide six 39 watt biax lamps, 35K temperature. 4 lamps shall be uplight, and 2 down.
2. Type P2 fixture. Provide four 39 watt biax lamps, 35K temperature. All lamps shall be down.
3. add type A5 fixture to schedule, three lamp 39 watt biax, parabolic louver (similar to A3 but 2 x 2). Lithonia.
4. Type DF2. Change fixture to wet location fixture with lens. Damp label not acceptable.
5. Type OP fixture. Provide pendant hung fixture, wet location, complete with mounting canopy. Visa catalog number OW1066-MOD-1H70 (120v)-CBA or equal. Pendant shall be 6 feet long. Lamp shall be 70 watt metal halide. Remote ballast shall be mounted in the mounting canopy.

DRAWING EL101a

1. Add the following general note: All electrical boxes in public spaces and on building exterior shall be flush mounted, including stairwells and existing stone walls. Cut or saw and patch existing stone wall as required to flush mount boxes and conceal conduit.
2. Change down light fixtures in lobbies 122, 222 and 322 to type DF3 instead of type DF1. twelve fixtures in Lobby 122, ten fixtures in Lobby 222, and twelve fixtures in Lobby L322.
3. In Conference 109, Conference 207 and Conference 310, provide a custom switch plate that will house both light switches and the dimmer switch.
4. Conference room 109, change fixtures to type A5 2x2's.
5. All switches shall be mounted in a single row, light switches one above the other is not acceptable.
6. Provide 4-pole electrically held lighting contactor, hand-off-auto selector switch, and photocell for outdoor lighting control. Wire photocell contacts with "auto" selector switch position for automatic control of contactor. Locate contactor in adjacent to basement lighting panel.
7. Provide three 10-pole mechanically held lighting contactors, locate one contactor on each level in accessible ceiling space above lighting panel. Provide one single pole double throw momentary contact light switch on each level located next to standard light switches and with label "master switch". Provide time clock Tork T930L wired to contactors, and switches wired to override time clock to the on position. Locate time clock in basement electrical room.

DRAWING EP101

1. Add the following general note: All electrical boxes in public spaces and on building exterior shall be flush mounted, including stairwells, and existing stone walls. Cut or saw and patch existing stone wall as required to flush mount boxes and conceal conduit.

DRAWING EP102

1. Attic plan. Locate photocell on north side of building below roof eaves. Run 4#12, 3/4" conduit down to lighting contactor and HOA switch in basement electrical room.
2. Relocate the existing gutter heat trace panel to the south side of the attic mechanical room next to the mechanical room door. Extend all existing gutter heat trace power circuits (approximately 30 circuits, field verify) to the new location of this panel, including the temperature control circuit.
3. Provide a new 200 amp feeder (4 #3/0, 1#6 ground in 2" conduit) from the relocated gutter heat trace panel to the basement main panel.
4. All conduit penetrations for conduit entering or exiting the mechanical room space shall be made with a 3 feet length of sealite conduit through the wall to limit transmission of noise and vibration

DRAWING EY101

1. Add the following general note: All electrical boxes in public spaces and on building exterior shall be flush mounted, including stairwells and existing stone walls. Cut or saw and patch existing stone wall as required to flush mount boxes and conceal conduit.
2. Locate all control modules and relays above accessible ceilings.
3. At each of the three entry doors, provide an additional 3/8 inch flex conduit into the door frame for a future electronic lock system.
4. Basement and main levels. Note 20 refers to existing voice and data cables entering the building. An existing 800 pair voice cable and 24-strand fiberoptic (6 sm and 18mm fibers) cable enter the building in one of the conduits. The electrical contractor shall open the existing voice cable splice case, pull back the existing 800 pair voice cable and the fiberoptic cable out of this conduit back to the Administration Building, then continue to pull the cables out of the conduit from the Administration Building to the Braithwaite Building. The contractor shall then and re-pull just the voice cable back to the Old Main Building through the same conduit and reconnect it at the splice case in the Old Main Building. For the fiberoptic cable, the contractor shall pull the cable from the Braithwaite Building into the utility tunnel and back to the Old Main Building and re-terminate the fiberoptic cable in the Old Main Telephone Room 005. The telecommunications subcontractor shall perform all termination work.

DRAWING EX101

1. One line diagram. At the existing pad mounted transformer, disconnect and remove the existing kwh meter and provide a new electronic kwh/kw demand meter, meter base, and conduit to the transformer compartment. Provide new CT's in the existing transformer secondary compartment that are compatible with the new meter. Coordinate with the University for exact meter type.
2. One line diagram. Provide a 200 amp 3-pole breaker in the main panel to feed the existing relocated gutter heat trace panel located in the attic. Provide a 43X feeder.
3. One line diagram. Provide one 125 amp 3-pole spare breaker and one 150 amp 3-pole spare breaker in the main panel.

ITEM 3 – ELECTRICAL PRIOR APPROVALS

1. The following items, trade names, products and manufacturers are approved for bidding. Approval does not relieve the bidder from satisfying the intent of the requirements of the drawings, specifications and addenda in every respect. Failure to conform to the design quality and standards specified, established and required may result in later disapproval. If equipment must be disapproved after bidding, supplier shall supply specified equipment at no extra cost to the owner. Items are listed generally.
Lighting Fixtures:
Types A2, A3, A4, A5, B1, J, S – Metalux
Types D, DF1, DF2 – Portfolio
Types P1, P2 – Visa

Type OP – Winona
Type R – Canlet
Type SC1 – Winona
Type SC2 - Lumark
Type ST - Forum
Type UC – Fail Safe
Type W – Portfolio (Adjustable lamp)
Types X1, X2 - Surelites

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SECTION 16741 - VOICE/DATA COMMUNICATIONS CABLING SYSTEM

PART 1 - GENERAL

SUU's communications cable/wire plant is designed to transport high speed voice and data signals. The design and installation must adhere to the specifications provided in this document. Any exceptions must be approved by SUU Communication Facilities prior to installation.

DESCRIPTION OF WORK

Provide a complete voice/data cabling system for the Old Main Building, which shall include but not be limited to the following items:

- 100 pair telephone service cable
- Gas fuse protector
- Voice station cable
- Data station cable
- 110 data terminal blocks
- 66 Voice blocks
- Data and voice outlet boxes, jacks and cover plates
- Conduit raceways
- Terminal boards
- Grounding

DESIGN

SUU Communication Facilities will provide the design for MDF and IDF terminal layouts, feeder and riser cable pair counts and the number and location of voice/data jacks. SUU Communications system will approve the design of conduit runs, wire trays and other cable paths.

QUALITY ASSURANCE:

Comply with applicable portions of NEC as to type products used and installation of components. Provide products and materials which have been UL-listed and labeled. Comply with NEMA standards for low loss extended frequency cable and EIA/TIA TSB-36. Comply with EIA/TIA recommendations. Comply with EIA/TIA testing standards for horizontal cabling.

All strands of fiber are to be fully terminated in an LIU and zip cords are to be installed to the fiber transceivers.

DEFINITIONS AND TERMS

The following terms and definitions are applicable to the SUU Communications system and facilities:

1. **Bonding Conductor** A conductor that connects the non-current-carrying parts of electrical equipment, raceways, or enclosures to the building grounding conductor and having the capacity to conduct safely any current likely to be imposed on it.
2. **Bonding** A low-impedance path obtained by securely joining all non-current-carrying metal parts to assure electrical continuity.
3. **Cable** "Cable", in this document, refers to data and voice cable addressing copper and fiber optic cable.
4. **CMR Cable** Non-plenum fire resistant communication riser cable (see NEC article 800).
5. **Electrical Protection Device** The electrical protection devices protect the personnel and equipment against electrical surges and other potentially harmful electrical currents or transient voltages from lightning or other power sources.

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- Feeder Cable** The cable providing connection from the Main Distribution Frame (MDF) to the campus central frame. Sometimes referred to as "entrance" or "trunk" cables. Home-run Designates the station cables in a building that are terminated at the MDF.
7. **IDF** Intermediate Distribution Frame. Cross-connect terminals for riser cables and station wire in large buildings that cannot be serviced by a single MDF terminal. IDF's are located in the "intermediate communication rooms". IDF's are connected to the BDF by vertical or horizontal riser cables.
 8. **Location Code** The number assigned by SUU communication Facilities to each individual jack or station termination. A duplex jack would have two location codes assigned. One for each jack.
 9. **MDF** Main Distribution Frame. The main protector and cross-connect terminal located at one of the equipment rooms.
 10. **PDS** Premises Distribution System. The cross-connect system that consists of AT&T 110-type hardware.
 11. **Protector Panel** The panel that houses the plug-in type protectors. The multipair protector panel includes the plug-in protector field and a cross-connect field.
 12. **Protector** See Electrical Protection Device.
 13. **Riser Cable** The cable that connects the MDF to an IDF.
 14. **Sleeves** Sleeves are short pieces of pipe or conduit that are installed through the floor structure.
 15. **Station Cable or Station Wire** The cable used to connect from the IDF to a voice/data jack.
 16. **Tip Splice** The splice point between feeder cable and the electrical protection device tip cable.
 17. **Tip Cable** The cable which enters the electrical protection device.

APPROVED CONTRACTORS

Bids will be accepted from experienced communications contractors approved by SUU Communications Systems. Pre-approved communications contractors by SUU are:

Americom Technology 801-892-0500
5132 S 300W
Murray, Utah 84107

Cache Valley Electric 801-908-6666
1990 S. 4130 W.
Salt Lake City, Utah 84104

INSTALLATIONS

All cables, terminals, jacks and related equipment shall be installed in a neat and orderly manner. Multiple cables shall be neatly bundled and attached to approved attachments. No cable shall be attached to, resting on or in other wise touching the fire sprinkler pipe, supports or components.

INSPECTIONS AND ACCEPTANCE

SUU Communication Facilities personnel shall perform inspections of communications cable installations during and at completion of the installation. The cable plan shall not be accepted by SUU until all inspections and testing are completed. SUU will provide the contractor with a list of items to be corrected by the contractor before acceptance.

MATERIALS

All cables, parts and materials must be UL listed and comply with the NEC and NFS specifications.

PART 2 – PRODUCTS

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SCOPE OF WORK

Provide a 100 pair, 24 gauge, Category 3 telephone service cable. Connect this service cable to the existing 700 pair telephone cable in the splice case that enters the existing building in the southwest corner of Room 114 and extend the 100 pair cable in conduit to the entrance facility. Located in the new Telephone room 005 on the basement level. Disconnect the existing Old Main building 100 pair service cable at the splice case, and maintain the existing 700 pair cable that enters the building and the 600 pair cable that exits the building. Provide labor, material and splices as required to connect the new 100 pair cable to the existing 700 pair cable in the existing splice case. Provide a new gas fuse protector in Telephone room 005. Provide a wall mounted pre-fabricated load block with spools, standoffs for 66 blocks, and 66 type terminal blocks for all telephone service cable pairs and voice station cable pairs. Provide spare terminal blocks to accommodate 50 percent future growth.

Re-route the existing fiber optic service cable to the new Telephone room 005. Re-terminate the service cable end in Telephone room 005 with new connectors and provide a new wall mounted connector box. Provide fiber optic cable from connector box to owner-furnished equipment.

Provide cross-connects for all voice and data cables.

Provide voice and data cables, outlet boxes, jacks and cover plates.

COMMUNICATION ROOMS

GENERAL:

Communication rooms shall be provided in the building design to accommodate voice/data communications MDF and IDF terminals and equipment.

1. The communication rooms shall be dedicated to building communications only.
2. Communication rooms shall not contain high voltage transformers and/or power panels.
3. Communication room walls shall be of reinforced material to accommodate the weight of terminals and other wall mounted equipment.

Riser Conduits

1. Provide riser conduits as indicated on drawings. Provide pull string in each empty conduit.

Grounding

Provide a termination point to the building ground in each communication room.

Walls

Communication room walls shall be structurally reinforced to allow for equipment to be mounted on the walls.

Wall linings

1. Line telephone and/or data closet wall with ¾ - inch by 8 - foot plywood refer to the drawings for exact length of the distribution boards.
2. Fasten the plywood to the wall-framing members.
3. Paint the plywood with fire-resistant paint.

VOICE/DATA COMMUNICATIONS CABLING SYSTEM

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Power

1. In the master communications room provide a minimum of one 110-volt duplex outlet. The outlet shall be on a separate, dedicated 20 Amp 3-wire grounded circuit.
2. In the data closet (IDF) provide a minimum of two 110-Volt duplex outlets. Each outlet shall be on a common dedicated 20 Amp 3-wire grounded circuit.
3. All outlets shall be on non-switched circuits.
4. Emergency power shall be provided to each 110-Volt outlet.
5. Provide a separate 110-Volt utility outlet for power tools and test equipment.

Underground Entrance - the telephone service cable shall be installed in conduit.

PART 3 - EXECUTION

MDF/IDF

General

The MDF/IDF terminal design and layout will be provided by SUU Communication Facilities and will use AT&T Premises Distribution System (PDS) components. All parts and labor shall be provided by the contractor.

Cable Routing and Attachments

1. Cables shall be neatly bundled using wire-ties spaced 18 to 24-inches apart.
2. There shall be no kinks or sharp bends.
3. Cables will be laced through "D-rings" placed 18 to 24-inches apart.
4. Cables shall be attached to wire trays and wall attachments to provide strain relief and cable support.
5. Cables shall have sufficient slack to allow for proper routing and strain relief.

Protector Panels and Protectors

The AT&T 188 Demarc Multipair Protector Panel (188B1-100) shall be used for service feeder cable termination. Each protector panel shall be fully populated with AT&T 3B-e Series gas tube protectors.

Cable termination Hardware

1. The AT&T 66 wiring block **bad part #**(66 AWI-300) with stand-offs shall be used for termination of voice riser and station cables.
2. The multipair voice riser cables shall be terminated on the 66 wiring blocks with 5-pair **bad part#** 66C connecting blocks **bad part#**(66C-5).
3. The 4-pair station cables for voice shall be terminated on the 66 wiring blocks with 4-pair **bad part#** 66C connecting blocks (66-4).
4. The 4-pair station cables for data shall be terminated on 110 type wiring blocks.
5. All cable termination hardware will be mounted with panhead screws.

Jumper Path Hardware

The jumper path hardware shall be the AT&T 66 trough (66A1) for vertical wiring troughs and 188 backboards (188B) for horizontal wiring troughs.

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Labeling

All feeder, riser and station cable wiring blocks shall be labeled using AT&T 188 Designation Strips (188UTI-50). All labels shall be typed written using the slip-in circuit labels. The slip-in labels shall be colored green for feeder cables, blue for riser cables and white for station cables.

RISER CABLES

Specifications

1. When riser cables are pulled in a fire-rated vertical shaft or in conduit, CMR (non-plenum) cable may be used (AT&T ARMM).
2. Each IDF shall have a direct continuous riser cable with no splices.

STATION WIRE AND JACK

General

Station wiring and jacks shall be installed to SUU Communication Facilities telephone and data station wire and jack standards.

Jacks

1. The contractor shall provide a cover plate for each jack. Cover plates shall be stainless steel. Where single data and voice (telephone) outlets are shown on adjacent to each other, one outlet box may be used with voice and data jack occupying the same cover plate. Where multiple (2-port or 4-port) data outlets are shown with an adjacent voice (telephone) outlet, the voice jack shall be in a separate outlet box with separate cover plate.
2. All jacks will be clearly and neatly labeled. Each individual jack (top and bottom) shall be labeled with the location code.

Telephone Jacks	RJ45	Cat 3	Wh.	Lucent #M1BH-262
Data Jacks	RJ45	Cat 6	Blk	Avaya #MGS400BH-003
Fiber Jacks	MP-RJ Multimode		Blk.	--

Provide 568B wiring configuration for voice and data jacks. Verify with SUU Communications Facilities Department before ordering.

3. Stainless steel plates are only available in 2-hole and 4 hole face plates.

Outlet Boxes

1. Outlet boxes shall be shall be 4 square box, 2-1/8" inches deep, with appropriate plaster or tile ring.

Conduit

1. The electrical contractor shall provide and install all conduits. Conduit fittings and boxes.
2. No conduit shall be smaller than 3/4 inches in diameter.
3. The conduit, outlet and fittings shall not contain more than the equivalent of four quarter bends

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- (360 degrees total). Including bends located immediately at the outlet or fitting.
4. Conduits runs shall have no reverse bends.
 5. Conduits shall be extended from the outlet box to the cable tray in the accessible ceiling space, or where indicated on plans, to the communications room.
 6. Plastic bushings shall be provided on both ends of all conduits.
 7. Pull lines shall be installed in all empty conduits.
 8. Conduits and/or boxes shall not be surface mounted. Any area that may require surface mounted boxes, conduits or wire mold must be pre-approved by SUU Communications Facilities.

CABLE

Voice Cable

All voice station cable shall be 4-pair 24 AWG Category 6 unshielded twisted pair (UTP), with beige or white jacket. The cable shall meet all requirements of ANSI/ICEA Publication S-80-476, and shall be covered under UL's Performance Verification Program. The cable must be approved by SUU Communications Systems. The cable shall be rated for non-plenum installation.

Data Cable

All data station cable shall be 4-pair, 24 AWG Avaya Category 6 unshielded twisted pair (UTP), with gray jacket. The cable shall meet all requirements of ANSI/ICEA, and shall covered under UL's Performance Verification Program. The cable must be approved by SUU Communications. Cable shall be rated for non-plenum installation. The cable sheath shall be colored gray to indicate non-plenum.

Provide color coding of data station cable in conformance with campus standards. Campus standard color coding is slightly different than industry. Contact Jerry Carpenter (SUU Communications) at 435-586-5437 for confirmation of required color coding.

Installation

1. One four-pair voice cable shall be provided from each voice jack to the telephone distribution frame.
2. No voice station cable shall exceed 300 feet in length from distribution frame to jack.
3. Voice station cables shall be pulled to the voice distribution frame at the telephone terminal board located on the basement level.
4. The appropriate 66 type punch tool shall be used to terminate the voice station cable on the jack.
5. One four-pair UTP data cable shall be provided from each data jack to the data distribution frame located in the basement level telephone room.
6. No data station cable shall exceed 300 feet in length from distribution frame to jack.
7. Data station cables shall be pulled to the data distribution frame located in the telephone room on the basement level.
8. The appropriate 110 type punch tools shall be used to terminate the station cable on the jack.
9. Data and voice cables shall be run in totally in conduit and cable tray. All cable installation must meet applicable NEC and local building codes. Raceway or associated supports may not be attached to the dropped ceiling support wires. A minimum bend radius of 10 times the cable diameter shall be maintained for all voice and data cable.
10. For voice and data outlets installed in walls, provide a steel outlet box in the wall and run minimum 3/4 inch conduit from the box to the cable tray in the accessible ceiling space. For voice and data outlets installed in floors, provide a minimum 3/4 inch conduit stub from the floor box to the cable tray. Provide plastic bushings on both ends of all conduit.

GROUNDING

SUU OLD MAIN

General

All grounding shall be installed by the contractor to specifications in NEC article 250 - GROUNDING and article 800 - COMMUNICATIONS CIRCUITS, local codes and SUU specifications.

Communication Room Grounding

Provide a termination point to the building ground in each communication room.

Feeder Cable Shield

The feeder cable shall be bonded by means of a No. 6 AWG ground wire to an approved ground wire to an approved ground at every point where the conductors enter or leave the cable sheathe. This is typically done in the master communication room where the MDF is housed.

Splice Cases

The shields of all cables in each splice shall be bonded together by placing a bonding ribbon between cable shields.

Tip Splice

1. The cable shield continuity shall be maintained within the splice case between the tip cables and feeder cable.
2. The tip splice shield shall be bonded with a No. 6 AWG ground wire to a building ground.

Protector Panel

1. Protector panel grounding shall be with a No. 6 AWG ground wire to the building ground.
2. Multiple protector panel grounding lugs shall be connected together with a No. 6 AWG ground wire.

Riser Cable Shield

The riser cable shield shall be bonded by means of a No. 12 AWG or larger ground wire to a building ground at the MDF end.

Cable Shield Continuity

Cable shield continuity shall be maintained over the entire length of the riser cable and between the riser cable and the feeder cable.

TESTING AND CERTIFICATION

General

The contractor shall test all cable conductors (pairs) for continuity, pair reversals, transposed pairs, split pairs or grounded conductors.

1. Cables with less than 100-pairs, such as station cable, shall have zero bad pairs or conductors.
2. Cables with 100-pairs or greater shall have no more than 1% cable pair failures. For example, a 200-pair cable shall have no more than 2 bad pairs.
3. Cables with greater than 1% failed pairs, or any failed pairs for a cable less than 100-pair, will not

SUU OLD MAIN

- be accepted by SUU and must be replaced by the contractor at the contractors expense.
4. The contractor will provide to SUU Communications Systems a complete list of all pairs tested (see Documentation section below).

Cable Tests

1. All feeder cable conductors (pairs) shall be tested from the MDF to the central campus distribution frame.
2. All riser cable conductors (pairs) shall be tested from the MDF to the IDF.
3. All station cable conductors (pairs) shall be tested from the IDF to the jack.
4. All station cable conductors (pairs) shall be tested to comply with the 10BASE-T data communications specifications.

DOCUMENTATION

General

The contractor shall provide to SUU Communication Facilities complete documentation for all cables installed. All lists shall be listed by feeder pair, riser pair or station location code. Documentation shall include:

1. Cable pair number or location code.
2. Building and room numbers for beginning and ending terminations.
3. Cable type such as CMR, CMP etc.
4. Cable lengths. All cable lengths must be documented and be certified with a Time Domain Reflectometer (TDR) or other reliable cable measuring device.

Cable test documentation shall include the test results i.e. "Ok", "short", "open", "ground", "reversal", "transposed" or "split". FIRE STOPPING

All penetrations through fire rated walls and floors must be properly sealed with approved materials to reduce the chance of fire and smoke spreading.

WARRANTY

General

The contractor shall warrant and guarantee to SUU, without limitations or qualifications, that all equipment, components, materials and workmanship shall perform in accordance with local and national codes and the specifications of this documentation.

1. Warranty Period

The warranty period shall be for one year or greater from the time of acceptance by SUU Communication Facilities.

END OF SECTION 16741

24. REMOVE CASTING PLASTER ON EXTERIOR MASONRY WALL.
25. DEMO FOR NEW BOND BEAM - SEE A3/AE405 & A5/AE406 AND STRUCTURAL.
26. REMOVE BRICK INFILL IN ORIGINAL WINDOW OPENING. PREPARE FOR INSTALLATION OF NEW WINDOW.
27. REMOVE EXISTING WINDOW. PREPARE FOR INSTALLATION OF NEW WINDOW.
28. REMOVE WYTHS OF BRICKS AND/OR FOUNDATION - COORD WITH STRUCTURAL.
29. PATCH AND FILL IN VOID AT EXISTING MECHANICAL CHASE IN WALL - SEE MECHANICAL DEMO DRAWINGS NOTE #2.
30. REMOVE CONCRETE WALLS WITH POSSIBLE MASONRY VENEER - FIELD VERIFY.
31. REMOVE CONCRETE WALLS - FIELD VERIFY.



6

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AD101 REFERENCE NOTES

PROJECT NO: B04-012

DATE: 9-20-04

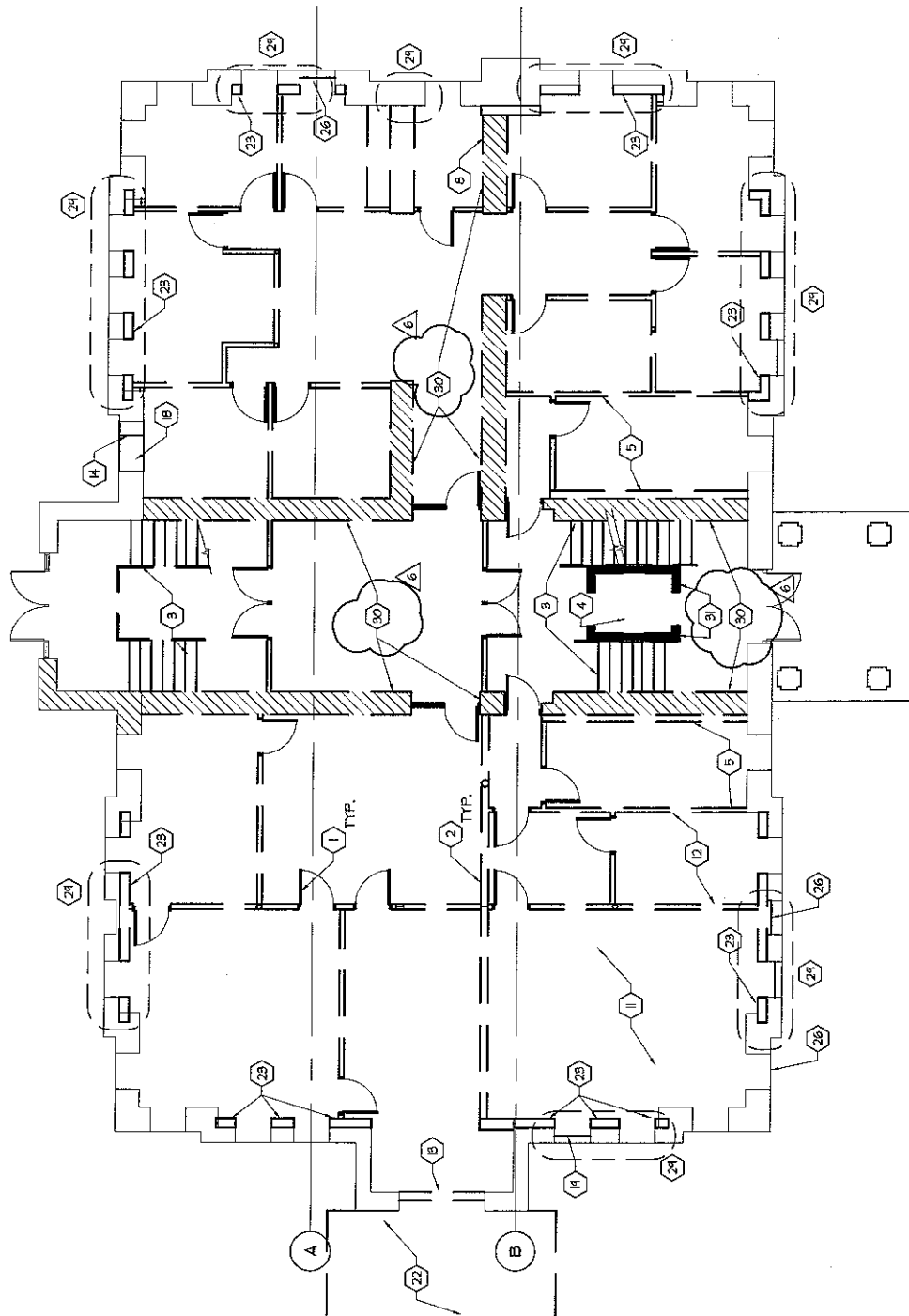
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DRAWN BY: DTN

CHECKED BY: ML

ADDENDUM #6
REFERENCE NOTES

Add. 6.1



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DEMO FLOOR PLANS MAIN FLOOR - A3/AD101

PROJECT NO: B04-012

DATE: 9-20-04

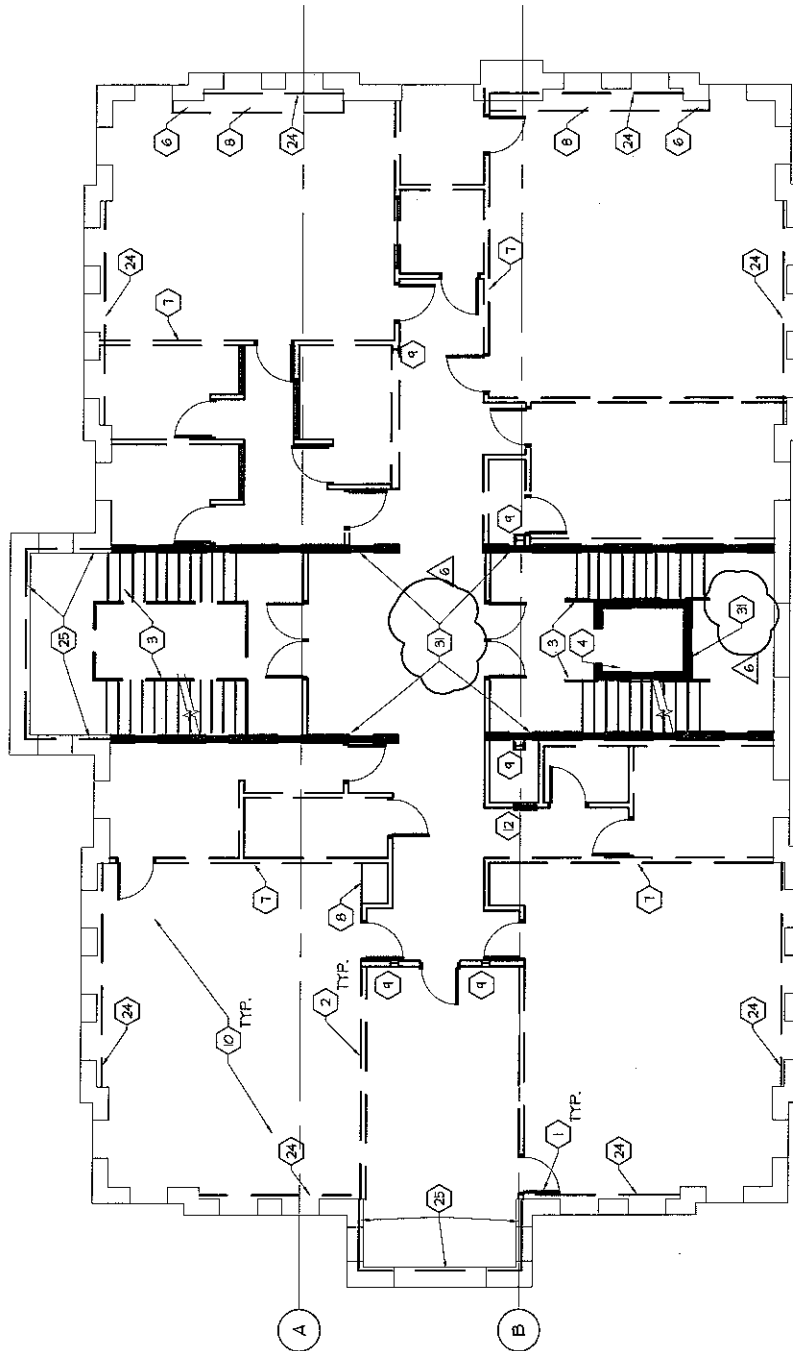
CAD DWG FILE:

DRAWN BY: DTN

CHECKED BY: ML

ADDENDUM #6
EXISTING
CONCRETE WALLS

Add. 6.2



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DEMO FLOOR PLANS SECOND FLOOR - C1/AD101

PROJECT NO: B04-012

DATE: 9-20-04

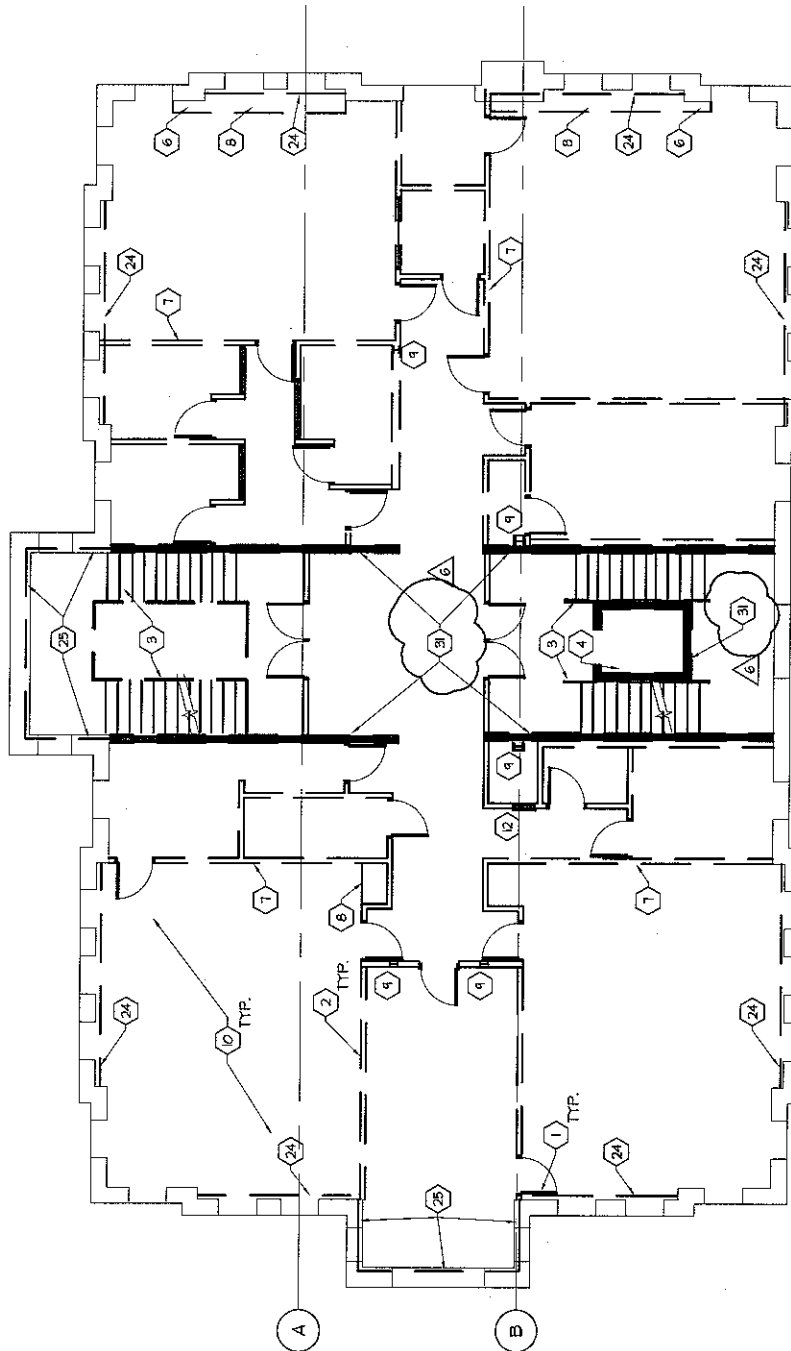
CAD DWG FILE:

DRAWN BY: DTN

CHECKED BY: ML

ADDENDUM #6
EXISTING
CONCRETE WALLS

Add. 6.3



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DEMO FLOOR PLANS C3/AD101

PROJECT NO: B04-012

DATE: 9-20-04

CAD DWG FILE:

DRAWN BY: DTN

CHECKED BY: ML

ADDENDUM #6
EXISTING
CONCRETE WALLS

Add. 6.4